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Refuge Trip Report

Migratory Bird Field Coordinator - Memphis, TN

Refuge: Holla Bend

Date: September 4, 1986

Purpose:

1. To assess the feasibility of moist soil (MS) vegetative transects.

2. Discuss establishment of hedgerows.

Accomplishments:

MS units were inspected for plant composition and to assess the benefits of vegetative transects. The present condition of most MS units was judged to be very good. Excellent stands of smartweed and some wild millet occurred in all units. Where undesirable vegetation (mostly cocklebur and composites) occurred, these areas had been disked and planted to brown top millet. If the millet produces a good crop of seed, the MS units will be in excellent condition and provide more food per acre than any other crop on the refuge.

It is my opinion that we should not establish vegetative transects in the MS units at this time. In fact, I believe we need to re-assess the usefulness of existing transects on all refuges. The problem, as I see it, is that existing transects are not giving us good estimates of plant composition of the units. This is occurring because of inadequate sample size and non-random sampling. I will look into other sampling schemes that will provide more useful data.

I do recommend that the following information be collected for each MS unit on Holla Bend beginning in 1987:

1. Visual estimates of percent canopy cover of the unit made up by various plant species

2. Weekly monitoring of water levels (guages will have to be installed)

3. Document all management actions as to type, location, time and results achieved

4. Estimate weekly duck and goose use-days for each MS unit

Due to the very sandy soils of Holla Bend, production of row crop waterfowl foods will always be adversely impacted by Johnson grass and dry growing seasons. The MS units have much better soils and are more reliable food producers than row crop lands. Even this year, when the corn crop is almost a total failure (estimated average of 7 bushels per acre), the MS units are in excellent condition. Because of the reliability of MS units and the quality of food produced, I believe we should initiate a program to achieve total water management control on existing units (this has already been initiated). In addition, we should develop more MS units where the opportunity exists.

Attempts to establish hedgerows in agriculture fields for other species of wildlife have all failed. I suggest that all plant species that have been tried over the years and failed, be considered as unsuitable; and that we look for other suitable species, including exotics such as the saw-tooth oak and autumn olive. We might also consider species that do well in sandy soils in other parts of the U.S.; i.e. scrub oak in Florida and West Texas.

If waterfowl populations on the refuge this winter are about the same as the 1985-86 level, we will need at least 500,000 pounds of grain and 400 acres of browse to feed the population. Since we only have around 200,000 pounds of grain, I would suggest that the browse acreage be increased to around 1,000 acres. To insure a good browse crop, planting should occur in September or early October. On corn fields that were a bust, wheat could be aerially seeded and the fields then mowed to cover seed and encourage germination.

Set-aside acreages should also be planted to wheat, but not harvested when it matures. It might be worth the effort to see if we can carry the wheat through to the wintering period and then make it available to waterfowl as a seed crop. This might also provide an opportunity to gain some control of Johnson grass.

The new dam on the old river bed will provide new water management options that have not previously been available to the refuge. Exactly what these options will be may not be well understood until the dam has functioned through a couple of winters. I suggest; therefore, that we gain a pretty good understanding of the effects of the dam on water levels before we decide on how to manage the habitat. I do feel that our long-range goal should be to always flood unharvested food resources, be they row-crop or natural foods. Being able to flood waterfowl food crops is one type of habitat that is seriously lacking on Holla Bend.

Recommendations:

1. Delay establishing vegetative transects until an adequate sampling method is developed

2. Begin collecting certain MS data in FY 1987 (see text)

3. Improve water management capability on existing MS units and develop additional units

4. Investigate new vegetative plants (including exotics) for use in establishing hedgerows in agricultural fields

5. Increase wheat planting this fall to 1,000 acres to partially offset reduced grain crop

6. Investigate using wheat as seed crop for wintering waterfowl

7. Begin now to arrange sharecrop acreages so that the new dam on the old river bed will result in flooding food crops that have not been harvested.

Other Items:

As requested by Manager, I will investigate the feasibility of applying dried sludge and chicken blood to refuge croplands.

I accompanied wildlife students from Arkansas Tech on a night spotlight count of deer on the refuge. This survey is being conducted under the supervision of Dr. Tom Nelson of Arkansas Tech to see if population trends can be detected. Dr. Nelson is involved in a very comprehensive study of the refuge deer population and gathers and analyses data that is valuable for managing the refuge herd. Even though we do not recommend night spotlight counts as an operational technique for measuring population parameters, we should continue to cooperate with the University on these surveys as a part of the overall deer study program.

Personnel Present:

Martin Perry, Dave Ellis, Don Orr

Don Orr

cc: Refuge Manager
Chief, Division of Wildlife & Habitat Management, Refuges & Wildlife, Atlanta, GA

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